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9 September 1966

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Declass Review by NGA.

Post Office Box 8031  
Southwest Station  
Washington, D. C. 20024

Subject: Film Drive Modifications to 552 and  
552A Fiber Optics Stereo Viewers

Gentlemen:

At a meeting held at your facility on 19 August 1966, you requested that we consider modifying the delivered 552 and 552A machines with powered film drive capability. This matter has been studied and two approaches are herein submitted:


A) Use of a power assist, as well as slew drive systems identical to that proposed and presently in modification on the 552A Serial #104. The technical description submitted for that modification would be identical when applied to either the 552 or 552A at your facility.

B) Modification of either the 552 or 552A machine with only a motorized film drive capability for slewing. The basic approach is described in the attached document, 552 - CD-162. It should be pointed out that although its primary purpose is for slewing it will have a potentiometer control which will allow relatively slow motion but will not have the "hand feel" or the precise control that the power assist technique would provide.

The cost estimates for the approaches A and B above are attached hereto. It should be pointed out that both estimates are based on accomplishing the modifications to the machines at your facility rather than returning the machines for modifications at our plant. The cost estimate sheets are submitted for accomplishing one (1) machine (either 552 or 552A) and accomplishing two machines at the same time. If two machines are modified but with a time difference at installation the cost of a single machine would have to be used for each of the equipments.

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GROUP 1  
EXCLUDED FROM AUTOMATIC  
DOWNGRADING AND  
DECLASSIFICATION

  
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9 September 1960

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This proposal is submitted on the basis of a firm fixed price contract with progress payments in the amount of 75%. Upon completion of the modification and installation acceptance, full payment within 30 days is desired. This proposal is valid for 60 days from the date of this letter. It is expected that the contract will take five (5) months to complete after authority to proceed.

If you desire any additional information, or any questions answered of a technical nature, please contact  all other matters should be referred to the undersigned.

Very truly yours,



Executive Vice President

LHB:rf

Encl: (2) 552 - CD-162  
(2) Cost Sheets 1-4

cc:  w/enclosures

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1 September 1966  
552 - CD-162  
WWB:rf

FILM DRIVE MODIFICATION PROPOSAL  
WITHOUT POWER ASSIST FEATURE  
FOR 552 AND 552A  
(Under Writing Top)

The purpose of this proposal is to add the capability of electrically driving each film spool, when selected by operator. The added mechanism would be mounted on the underside of the writing top and would require factory modification of writing top bottom cover and handwheel shaft bearing supports. Associated electronics would be located at right rear of main console. A knob selector switch arranges circuit and mechanism for anyone of two operating methods; "manual", and "full power", speed and direction of "full power" mode would require a second knob.

The mechanism, as shown in Figure 1, consists of a variable speed D.C. motor and dual clutch mechanism for each handwheel. In the manual mode, the operation not requiring motor, the magnetic motor clutch disengages motor from shaft while the handwheel clutch engages to permit direct handwheel drive.

In full power variable speed advance for film scanning or windup motor takes full load by engaging motor clutch. To prevent accidents with power spinning of handwheels, handwheel clutch disengages, causing them to free wheel. A second control knob determines direction and speed of motor in this mode.

552 - CD-162

With the motor presently thought suitable for the job the lower writing top cover would have a 2 inch high cylindrical bulge at the rear where interference with operator's knees is minimized. It should be noted when writing top is raised, equipment will be wider by the 2 inch bulge. Because of internal clearance limitations part of the handwheel shaft support would have to be machined away to make room for the motor's double worm gear reduction housing and clutch assembly. If modification had to be completed in field, an internal arrangement is possible to avoid machining, but would move bulge nearer operator because motors would have to be offset one in front of the other.

Electrical controls would be located on writing top as far back as internal clearance allows. Two knobs, mode selector and direction/speed control are seen necessary to make the above mechanism operate.

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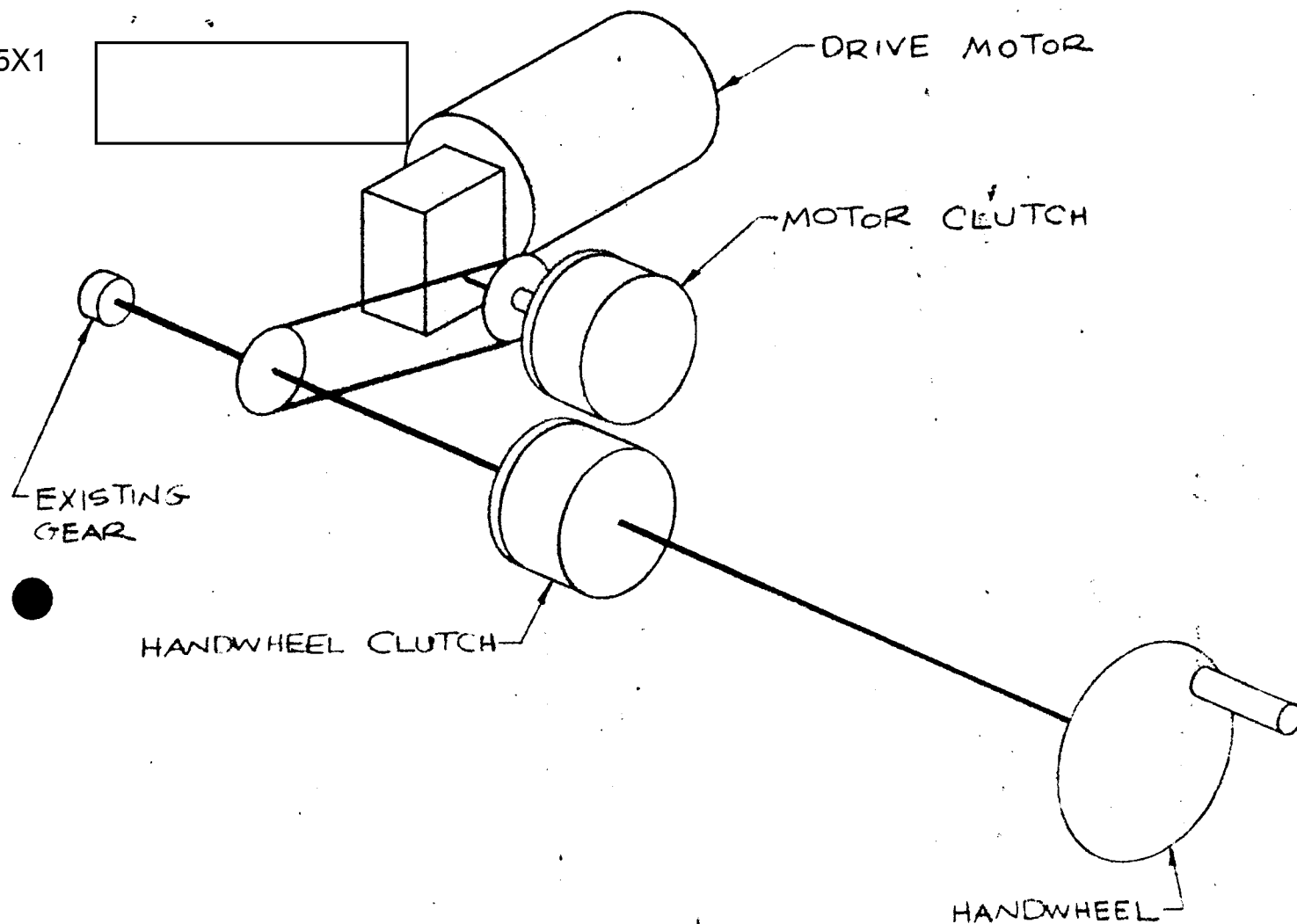


FIGURE 1. MECHANICAL SCHEMATIC  
FOR MOTORIZED FILM DRIVE  
WITHOUT POWER ASSIST  
FEATURE

**Next 5 Page(s) In Document Exempt**